uterus was dilated, the mucosa curetted off, and radium inserted into the cavity. This familiar process is not without hazards, as it prolongs convalescence and converts the treatment into a substantial gynecological operation which may not always be necessary. Before the days of radium I performed autopsies on the bodies of women who died from latent infection stirred up by simple exploration of the uterus and curettage."

Diagnostic curettage, then, in my opinion, should be a matter of careful consideration and judgment in the individual case and not a routine to be adhered to at all costs. It is for this reason, too, as Doctor Ewer has apparently not noted that I circumscribe the indication of the use of radium in benign conditions rather sharply, in fact, would use it only when immediate cessation of uterine hemorrhage is imperative and in those few cases where only temporary menostasis is desired and there only for the reason that in America direct roentgen dosimetry has not yet been generally adopted (with notable exceptions, of course).

As for carcinoma of the body of the uterus which might be overlooked by omitting a diagnostic curettage, let me say that of all gynecological carcinomata, cancer of the uterine body is only five per cent according to statistics compiled by the large clinics at home and abroad. If such statistics be made to include, in addition to the gynecological carcinomata, also those benign conditions with which my paper deals, the incidence of cancer of the uterine body will sink to about one per cent. If one subtracts from this those cases which may be diagnosed or at least suspected without curettage, it will be seen that the chances of unwittingly radiating a corpus carcinoma under the guise of a benign condition are less than one per cent. Moreover such a mistake in diagnosis may be corrected in reasonable time by watching the patient carefully after radiation, as my paper suggests, and the proper measures then instituted. Adenocarcinoma of the body of the uterus infiltrates late, hence remains operable for a comparatively long time. May I just mention here that the mortality for subtotal hysterectomy is at best one and one-half per cent, a jeopardy into which the patient is asked to place herself when submitting to surgery for a benign condition. A patient dead of embolism following hysterectomy cannot be resurrected, but a patient radiated on a mistaken diagnosis may still be cured of a corpus carcinoma.

As to the frequency of painful menstruation in women at the preclimacteric I will say that is not the question, but rather whether they are suitable for radiation treatment. Those cases, however, in whom menstruation is associated with the unpleasant nervous or other symptoms not referable directly to the genitalia are not very uncommon, I think, Doctor Ewer will concede.

Doctor Ewer makes much of the uncertainties of gynecological diagnosis and utilizes this as an argument for surgery. According to my observation the situation is not so serious and that the percentage of cases which cannot be diagnosed with reasonable accuracy before operation is comparatively small, especially if the proper diligence is used to make a preoperative diagnosis, instead of relying, as is often done, upon the operation to reveal all pathology. I am, moreover, ready and willing to concede to Doctor Ewer that all doubtful cases should be excluded from radiation, and think I have brought out this view sufficiently in my paper.

Concerning the question of lighting up latent infection by radiation, the danger is great only with the intra-uterine use of radium and there, as my reference from Ewing shows, an elaborate gynecological technique without the use of radium may have the same dire results. Still I think the fact is that infection may be diagnosed in the great majority of cases or at least suspected. Acute and subacute cases are excluded from radiation treatment without dispute. Chronic and "burnt out" cases may be treated according to good authority, with small repeated doses of roentgen ray. I am, however, content to leave the question of radiation treatment of these cases in controversy for the present.

As for the statement made in the summary of my paper, item two, which Doctor Ewer states to be "the most controversial of all," I am prepared to concede a point to him. Speaking of roentgen or radium radiation, I state that "It may also be termed the treatment of choice in simple uncomplicated interstitial and intramural fibromyomata of the uterus of all sizes." This statement seemed to me at first sufficiently conservative, after having reviewed in detail the contraindications of radiation therapy. I shall, however, rephrase it to read: "It may be also termed the treatment of choice in simple uncomplicated or intramural fibromyomata of the uterus not exceeding the size of a three months' pregnancy. Larger myomata may be treated with the roentgen ray with excellent hopes of success."

In connection with the uncertainty of diagnosis, of complications and the liability of a shrinking myoma to cause pressure symptoms and to degenerate, I wish to call attention to the statistics gathered by Gauss and his associates of 18,015 cases of hemorrhagic metropathies and fibromyomas, which cover a period of thirteen years—1914-1927. They report a clinical cure in 95 per cent of these cases. Certainly, these German gynecologists must be up against the same difficulties which Doctor Ewer emphasizes so strongly.

My suggestion that American gynecologists are unduly under the spell of surgery, as regards to the treatment of the conditions with which my paper deals, must appeal as correct to anyone who compares the European literature, especially the German, French, and Scandinavian, with the American on the subject.

Now, I think, I have replied to all of Doctor Ewer's major criticisms, and thank him for having forced me to examine carefully the soundness of the points of view presented in my paper. Perhaps with further experience modification will be necessary and my mind shall be open.

PRESENT DURATION OF BREAST FEEDING*

REPORT OF ONE THOUSAND AMERICAN WELL BABIES

By EDWARD J. LAMB, M. D.
Santa Barbara

DISCUSSION *by John Brown Manning, M. D., Santa Barbara; Robert E. Ramsay, M. D., Pasadena; Clifford Sweet, M. D., Oakland.*

FOR many years there has been an interest on the part of pediatricians in the length of time modern mothers nurse their babies. During the past two decades there has been a somewhat general feeling among physicians that mothers were not nursing their babies as long as they could. Ten and twenty years ago papers were published to bring out this point and emphasize the importance of breast feeding. During the last decade extremely few similar papers have been published. Preventive medicine as it relates to infants during this last decade has received much propaganda through the dissemination of literature from such authoritative sources as national, state, county and city health agencies. To the same ex-

* Read before the Pediatrics Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.

TABLE 1.—*Parturient Statistics*

Age of mother:	18-20	8.3%
	20-30	67.3%
	30-42	24.4%
Number of pregnancies:	Primipara	63.8%
	Multipara	36.2%
Type of Delivery:	Normal	87.0%
	Instrumental	11.1%
	Breech	.5%
	Caesarian	1.4%
Birthweight:	7- pounds	19.7%
	7-8 pounds	49.8%
	8+ pounds	27.1%
Special:	Premature	3.4%
	Twins	2. %

tent commercial enterprises and other organizations have disseminated information regarding the quality of milk now being marketed with the result that the modern mother has become milk-minded. It is surprising, even today, to note to what extent physicians are of the opinion that the baby is not kept long enough on the breast.

This paper is written to compare the duration of breast feeding at the present time with that during the last two decades, and to compare other related conditions.

The series of cases cited is taken from one thousand well babies under my care during the last two years. The group represents normal well babies of intelligent American parents.

LITERATURE

Manning[1] wrote a similar paper in 1920. Since then there has been an occasional paper written on breast feeding and its relation to infant mortality. In 1912 and 1916 Griffith[2] and Mitchell[3] each published papers on this same subject. In 1921 the late Doctors Sedgwick and Fleischner[4] presented an article on breast feeding in reducing infant mortality. In 1922 Dietrich[5] published an analysis of one thousand breast-fed babies.

All of the above publications referred to babies in large cities. This paper deals with babies of a semirural community, a city of wide geographical limits with a population of thirty-five thousand inhabitants, a community where the housing is most favorable for the care of infants, and the weather conditions equable.

Features which have been elicited from these case records other than the duration of breast feeding are: statistics on the age of the mother, number of pregnancies, character of labor, and weight of infant at birth.

TABLE 3.—*Analysis of Similar Series*

	Manning's Series	Dietrich's* Series	Lamb's Series
Less than one week	8.1%	4.8%	6.54%
One week	1.8%	4.1%	2.43%
Two weeks	4.0%	2.4%	2.62%
Three weeks	4.9%	2.6%	1.49%
One month	7.9%	6.7%	9.34%
Two months	9.2%	7.4%	7.10%
Three months	9.8%	9.0%	7.29%
Four months	6.3%	6.2%	5.05%
Five months	6.8%	4.1%	3.36%
Six months	5.5%	7.1%	7.66%
Seven months	4.7%	5.2%	4.49%
Eight months	4.2%	10.3%	13.27%
Nine months or above	26.8%	29.9%	29.34%

* Total numbers converted into percentages.

THE DURATION OF BREAST FEEDING

These statistics are not from the poorer class of women, but from intelligent American mothers of, at least, moderate financial status, who have become milk-minded through reading literature published in the current magazines of the value of good milk, the grades of milk, and other factors. These mothers are cognizant of the low mortality rate in breast-fed infants.

For purposes of comparison the following tables illustrate the similarity of breast feeding over a period of three decades:

TABLE 4.—*Length of Time Complemental Food Was Given Before Weaning*

	Less 1 week	One week	Two weeks	Three weeks	
Dietrich	.....	.....	1.19	.....	
Lamb	1.29	4.30	4.73	1.72	
	One month	Two months	Three months	Four months	
Dietrich	4.76	15.47	26.19	16.66	
Lamb	30.32	18.94	15.4	6.66	
	Five months	Six months	Seven months	Eight months	Nine months
Dietrich	26.19	4.76	3.57	1.19	.....
Lamb	18.94	4.51	1.93	3.87	2.36

TABLE 2.—*Duration of Nursing Months*

Cases Reported	Not Nursed	1 week or over	3 mos. or over	6 mos. or over	9 mos. or over	1 year or over	18 mos. or over	2 yrs. or over
Koplik[6] 1007 cases	.....	.....	40%	.....	.....	.....	.....	.....
Sedgwick[7] Wives of physicians	.....	.....	80%	.....	.....	.....	.....	.....
Mitchell[3] 2819 cases	20%	80%	55%	42%	34%	27%	9%	2%
Brown[8] 633 cases	.....	.....	76%	46.7%	30.4%	.....	.....	.....
Manning[1] 1000 cases	8.1%	91.9%	64%	41%	26.8%	11.8%	1.6%	.3%
Lamb 1000 cases	6.54%	93.44%	70.46%	56.76%	29.34%	7.66%	.....	.....

It is encouraging to note that this series compares favorably with similar social groups* published eight and ten years ago.

TABLE 5.—*Reasons for Weaning, Summarized*

A. Inability on the part of the infant:

1. Prematurity or immaturity or some cerebral injury at birth.
2. Various infective disorders such as sepsis neonatorum, icterus and hemorrhagic disease which cause loss of appetite and refusal to suck.
3. Anatomical defects such as pyloric stenosis.
4. Morbid conditions of the baby's nose, mouth and upper air passages such as adenoids, hare lip, cleft palate, etc.
5. Allergic disorder, as eczema.

B. Inability on the part of the mother:

1. Death of mother at childbirth.
2. Local conditions, such as depression, excoriation of crackling of the nipples and abscess of the breast.
3. General conditions such as malnutrition from deficient nourishment and constitutional diseases such as influenza, anemia and tuberculosis.
4. Psychological causes as anxiety, excitement, psychopathic, etc.
5. Pregnancy.

C. Interference with breast feeding due to economical or social conditions:

1. A few mothers are obliged to return to either full time or part time work which separates them from their babies.
2. Occasionally a mother is obliged or desires to travel to places where it would not be feasible for her baby to accompany her.

It is quite proper to encourage breast feeding, but we should not make the mistake of disparaging substitute feedings, for in this series we cannot but note that the babies fed on artificial milk formula have shown no serious deviations from that normal development that regularly follows adequate breast feedings.

I attribute the success not so much to any one particular formula as to the character of the milk, and the intelligent coöperation of the mothers.

TABLE 6.—*Summary of Substitutes Used for Breast Feeding*

	No. of Cases	Percentage
Dextri maltose with whole milk dilution	382	50.06%
Karo with whole milk dilution	177	23.20%
Cane sugar with whole milk dilution	44	5.76%
Dryco	41	5.37%
Milk and water	34	4.45%
Lactic acid with whole milk dilution	29	3.80%
Lactose with whole milk dilution	20	2.62%
Thick gruel	9	1.18%
Goat's milk	8	1.04%
S. M. A.	6	.79%
Eagle Brand	4	.52%
Malted Milk	3	.39%
Barley water with whole milk dilution	3	.39%
Casec with whole milk dilution	2	.26%
Skimmed milk	1	.13%

CONCLUSIONS

From this comparative study with series made in previous years, one can safely conclude that the duration of breast feeding has not decreased during the last two decades.

1515 State Street.

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DISCUSSION

JOHN BROWN MANNING, M D. (1515 State Street, Santa Barbara).—A comparison with the duration of nursing months as indicated in the table presented by Doctor Lamb compares very closely with that of mine of a decade ago. However, the general appearance of all bottle-fed babies now as compared with ten years ago has, in my experience, greatly improved.

The chief factors contributory to better results as indicated by the nutrition in bottle-fed babies might be briefly summarized as follows:

1. The simplified infant feeding of today. The further we get away from the complicated percentage method of the last two decades the better are our results. Surprising as it may appear, knowing the milk supply of the community, I find myself not only disregarding exact percentages, but often paying little or no attention to the caloric value, with far better results than ten years ago.

2. The numerous well baby clinics and other agencies distributing information on the care and handling of babies.

3. The general improvement in the production and handling of milk.

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ROBERT E. RAMSAY, M. D. (65 N. Madison Avenue, Pasadena).—It is generally agreed that there are few mothers who do not want to nurse their babies. It is also generally agreed that there is great diversity among mothers that have been studied as to the quantity and composition of the milk, and the duration of the ability to nurse. The fairly uniform findings of many observers warn us not to expect so long a nursing period as the idealism of many former teachers have led us to expect. It is a fact that the desire to nurse the infant in spite of difficulties has in many cases led to disastrous results.

Care during parturition and the lying-in period is of great importance. A prolonged exhausting delivery will retard the secretion of breast milk. So, also, poor convalescence will interfere with the establishment of a sufficient supply and lead to early use of complemental feeding. The total result will be early weaning.

The emphasis laid on good obstetrical care may well be extended to the prenatal period. The care of depressed nipples should begin before childbirth. Instruction with regard to the desirability and the advantages, as well as the method of breast feeding, should be given during this period. Many expectant mothers continue their social activities to a degree injurious to the offspring. The same mothers wish to resume their accustomed round long before they have regained their full strength and the ability to nurse their child at the same time. Lessened strain and excitement during the lactating period will help in the production of sufficient milk of good quality. In the prenatal period the same procedure will favor the production of a healthy child who can handle its food well.

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CLIFFORD SWEET, M. D. (242 Moss Avenue, Oakland). Doctor Lamb's study of a large number of the records of patients in private practice is valuable. More of this kind of research will yield an increasing amount of practical knowledge which will be of value to all of us who are studying the health problems of our patients as they are presented in daily practice. This knowledge will advance the art of practicing medicine and thereby make us more able to meet the needs of our patients.

Not every mother has a sufficient supply of breast milk to nurse her baby successfully. The mother who

has not the hereditary functional ability to meet at least a considerable part of her infant's growth and development needs should not have her life made miserable in an attempt to accomplish the impossible. On the other hand, breast feeding should not be discarded too lightly without a fair attempt to bring the breasts up to their functional capacity. Virgin breasts must be stimulated sufficiently often by thorough emptying to establish full function. Double breast feeding (the value of which was understood and made use of by our grandmothers) is a very valuable means to this end. The trial period must be extended over a sufficient time to prove the absence of the ability to carry on nursing satisfactorily. Six weeks postpartum is the shortest period which can be accepted as sufficient for demonstrating the lack of an amount of breast milk that is valuable as entire or partial nourishment for the infant. Many mothers can discard supplemental feedings at the end of this time and continue over a long period of very satisfactory milk production.

The intangible values of breast feeding over artificial feedings in the after-life of the infant are not easily made apparent and may not be important. Man's life is long and is influenced by many factors and conditions. Nevertheless, they may well be considerable. The psychic satisfaction that comes to the mother who nurses her infant is real and apparent and no doubt serves to increase and enrich her attachment to her child.

The desire to nurse her infant is well worth all the encouragement and painstaking help which her physician can give to the mother.

RECURRENT RETINAL HEMORRHAGES*

REPORT OF CASES

By THEODORE C. LYSTER, M. D.
Los Angeles

DISCUSSION *by M. F. Weymann, M. D., Los Angeles; Joseph L. McCool, M. D., San Francisco; Hans Barkan, M. D., San Francisco.*

RECURRENT retinal hemorrhages, especially those occurring in young adults, although not frequently reported in ophthalmic literature, are believed not so rare in practice. Trauma, lues, or a probable focal cause, other than pulmonary, can reasonably be excluded in a great many cases, leaving a relatively large group with undetermined etiology.

TUBERCULOSIS AS A CAUSATIVE FACTOR

Many of these may be due to a chronic tuberculous retinitis. These are the tragic cases for the oculist. One eye is usually lost, or permanently damaged, and the second eye on its way to becoming blind before the low-grade changes, either in the tracheobronchial glands, or other pulmonary structures, generally at the hilus, are considered as possibly responsible for the eye condition. Because the physical signs in the chest are usually not marked, these patients are rarely seen in sanitaria for the tuberculous. The internists in general, and especially those interested in tuberculosis, are exceedingly skeptical about the pulmonary changes having any direct association with the ocular disturbance. Our attention has been repeatedly called to this disassociation, especially by Jackson [1] and Finnoff.[2] That this is so hardly seems reasonable in view of our present knowledge of tuberculous conditions. It would hardly appear necessary to anyone following the trend of thought, as seen in the mass of literature on tuberculosis, to doubt that a latent pulmonary infection, such as is frequently seen in a peribronchial lymph node, may be the cause of the presence of a lesion in a far-distant organ of the body. The papers of Ophüls[3] and Krause[4] might here be mentioned simply to support this statement. Opie[5] has well stated: "Anatomic evidence furnishes abundant proof that the tuberculosis of the healthy should not be regarded as a trivial infection, of interest only to the pathologist."

Nearly every tissue of the body would appear susceptible to a secondary tuberculous manifestation, even when the primary lesion is almost negligible. Every structure in the eye—even the lens—has been found tuberculous at times. As for retinal tuberculosis, it has been medically accepted for many years and recognized as a vascular lesion, generally associated with superficial or deep retinal hemorrhages. Except when secondary to an extension from a neighboring structure, usually the choroid, the primary focus has frequently been suspected rather than determined. Friedenwald,[6] in discussing recurrent retinal hemorrhages, concluded that "none of these lesions are specifically tuberculous," which seems to be the generally accepted opinion, from its pathology. However, again quoting: "The pathology of phlyctenular disease shows little that is specific." Both conditions, clinically, are frequently considered tuberculous, but there seems to exist, even among pathologists, a willingness to accept the latter as an allergy but not the former. It would appear from our unsettled knowledge of allergy and immunology that no positive conclusion is warranted at the present time. Because of the comparative rarity where the tubercle bacillus has been found in suspected chronic retinal tuberculosis, much controversy has resulted to explain this rarity. Judging from the work of Otori [7] in 1914, and confirmed by many since (especially Finnoff [2]), it is exceedingly difficult to produce a primary tuberculous retinitis in animals, even by injection of tubercle bacilli into the carotid artery or temporal vein. The influence created by the classic work of Rosanow [8] that an organism such as the *Streptococcus viridens* from an apical abscess must be present in an ocular tissue before a focal reaction for the eye can be produced, still dominates our present general concept of all allergic ocular reactions.

Because of accessibility much animal experimental work has been possible in phlyctenulosis. The absence here of tubercle bacilli in the sclerocorneal tissue would appear confirmed, and this shakes somewhat our assurance that even in tuberculous retinitis, where the organism is so rarely found, that the living organism is a necessity. While much of what has been stated might appear simply controversial, the underlying thought is that proven pathology and clinical experience seem to differ at the expense of the

* Read before the Eye, Ear, Nose, and Throat Section of the California Medical Association at the fifty-ninth annual session at Del Monte, April 28 to May 1, 1930.